

CLAIMS

1           1.       A method for managing financial transactions, comprising:  
2           performing an authentication process for a predicted transaction by a particular account  
3 holder, the predicted transaction having a predicted transaction amount and a predicted  
4 transaction time, the authentication process producing a transaction signature for presentation  
5 upon execution of the predicted transaction;  
6           performing an authorization process for a particular transaction having actual transaction  
7 amount and an actual transaction time upon presentation of the transaction signature, including  
8 verifying that the presented transaction signature matches the transaction signature for the  
9 predicted transaction, the actual transaction amount matches the predicted transaction amount  
10 and the actual transaction time matches the predicted transaction time; and  
11           performing an accounting process for the particular transaction as a result of a successful  
12 authorization process, including reconciling the predicted transaction amount and the actual  
13 transaction amount for the particular account holder.

1           2.       The method of claim 1, including:  
2           storing the predicted transaction amount and the transaction signature for a predicted  
3 transaction in a database.

1           3.       The method of claim 2, including storing a predicted transaction time in the  
2 database.

1           4.       The method of claim 1, including setting up a time out interval between the  
2 authentication process and the authorization process.

1           5.       The method of claim 1, wherein the authentication process includes:  
2           establishing a communication session between the particular account holder and a  
3 financial transaction server;  
4           at the server, accepting an account number and an identification number for the particular  
5 account holder;  
6           at the server, accepting the predicted transaction amount;

7           at the server, producing the transaction signature and sending the transaction signature to  
8           the particular account holder; and  
9           entering identifying information for the predicted transaction in a memory at the server.

6. The method of claim 5, wherein the authentication process includes prompting the particular account holder to supply a combination of digits from a personal identification code, wherein the combination does not include all of the personal identification code.

1           7.       The method of claim 1, wherein the authorization process includes:  
2           establishing a communication session between a party to the particular transaction and a  
3       financial transaction server;

4                   at the server, accepting the presented transaction signature and the actual transaction  
5    amount;

6           at the server, comparing a time of the particular transaction with the predicted time, and  
7           comparing the presented transaction signature and actual transaction amount with the predicted  
8           transaction amount associated with the transaction signature for the predicted transaction; and  
9           at the server, sending an authorization message to the party.

1           8.     The method of claim 7, including accepting identification of the party at the  
2     server.

1           9.       The method of claim 7, wherein the authorization process operates without  
2       identification of the particular account holder to the party.

1           10.     The method of claim 7, wherein the authorization process operates with  
2     identification of the particular account holder to the party.

1            11.     The method of claim 1, wherein the authentication process includes routines:  
2            establishing a communication session between the particular account holder and a  
3            financial transaction server;  
4            accepting an account number as input;

5           prompting the particular account holder to supply a static identification number and a  
6           dynamically identified combination of digits from a personal identification code, wherein the  
7           combination does not include all of the personal identification code;  
8           accepting the predicted transaction amount as input;  
9           producing the transaction signature and sending the transaction signature to the particular  
10          account holder; and  
11          entering identifying information for the predicted transaction in a memory.

1           12.     A method for managing financial transactions, comprising:  
2           executing an authentication process over communication media for a predicted  
3           transaction by a particular account holder, including receiving a predicted transaction amount at  
4           an authentication time, the authentication process producing a transaction signature for  
5           presentation upon execution of the predicted transaction, communicating the transaction  
6           signature to the particular account holder, and storing the transaction signature and parameters  
7           associated with the particular transaction;  
8           executing an authorization process over communication media for a particular  
9           transaction having actual transaction amount and an actual transaction time, including receiving  
10          the transaction signature over communication media from a party to the particular transaction at  
11          an authorization time, verifying that the received transaction signature matches the transaction  
12          signature stored for the predicted transaction, the actual transaction amount matches the  
13          predicted transaction amount and the authorization time meets a time criterion; and  
14          executing an accounting process for the particular transaction as a result of a successful  
15          authorization process, including reconciling the predicted transaction amount and the actual  
16          transaction amount for the particular account holder.

1           13.     The method of claim 12, including:  
2           storing the transaction signature and the parameters associated with the predicted  
3           transaction in a database.

1           14.     The method of claim 13, including storing a parameter indicating acceptable  
2           transaction times in the database.

1           15.     The method of claim 12, including setting up a time out interval between the  
2 authentication time and the authorization time.

1           16.     The method of claim 12, wherein the authentication process includes:  
2           establishing a private communication session between the particular account holder and a  
3 financial transaction server;  
4           at the server, accepting an account number and an identification number for the particular  
5 account holder;  
6           at the server, accepting the predicted transaction amount;  
7           at the server, producing the transaction signature and sending the transaction signature to  
8 the particular account holder; and  
9           entering identifying information for the predicted transaction in a memory at the server.

1           17.     The method of claim 16, wherein the authentication process includes prompting  
2 the particular account holder to supply a combination of digits from a personal identification  
3 code, wherein the combination does not include all of the personal identification code.

1           18.     The method of claim 12, wherein the authorization process includes:  
2           establishing a private communication session between a party to the particular  
3 transaction and a financial transaction server;  
4           at the server, accepting the presented transaction signature and the actual transaction  
5 amount;  
6           at the server, determining whether the authorization time falls within an acceptable time  
7 window, and comparing the presented transaction signature and actual transaction amount with  
8 the predicted transaction amount associated with the transaction signature for the predicted  
9 transaction; and  
10          at the server, sending an authorization message to the party.

1           19.     The method of claim 18, including accepting identification of the party at the  
2 server.

20. The method of claim 18, wherein the authorization process operates without identification of the particular account holder to the party.

21. The method of claim 18, wherein the authorization process operates with identification of the particular account holder to the party.

22. The method of claim 12, wherein the authentication process includes:

- establishing a communication session between the particular account holder and a financial transaction server;
- accepting an account number as input;
- prompting the particular account holder to supply a static identification number and a dynamically identified combination of digits from a personal identification code, wherein the combination does not include all of the personal identification code;
- accepting the predicted transaction amount as input;
- producing the transaction signature and sending the transaction signature to the particular account holder; and
- entering identifying information for the predicted transaction in a memory.

23. A financial transaction server, comprising:  
a communication interface;  
a data processing system coupled to the communication interface, the data processing system including resources for managing financial transactions, including  
an authentication process communicating over the communication interface for authenticating predicted transaction by a particular account holder, including routines which handle receiving a predicted transaction amount at an authentication time, producing a transaction signature for presentation upon execution of the predicted transaction, communicating the transaction signature to the particular account holder, and storing the transaction signature and parameters associated with the particular transaction;  
an authorization process communicating over the communication interface for authorizing a particular transaction having actual transaction amount and an actual transaction time, including routines for handling receiving the transaction signature over the communication

interface from a party to the particular transaction at an authorization time, verifying that the received transaction signature matches the transaction signature stored for the predicted transaction, that the actual transaction amount matches the predicted transaction amount and that the authorization time meets a time criterion; and

an accounting process executed for the particular transaction as a result of a successful authorization process, including routines reconciling the predicted transaction amount and the actual transaction amount for the particular account holder.

24. The financial transaction server of claim 23, wherein the data processing system includes a local or remote database storing the transaction signature and the parameters associated with the predicted transaction.

25. The financial transaction server of claim 24, including a parameter indicating acceptable transaction times stored in the database.

26. The financial transaction server of claim 23, wherein the data processing system includes a routine setting up a time out interval between the authentication time and the authorization time.

27. The financial transaction server of claim 23, wherein the authentication process includes routines:

establishing a private communication session between the particular account holder and a financial transaction server;

accepting an account number and an identification number for the particular account holder;

accepting the predicted transaction amount;

producing the transaction signature and sending the transaction signature to the particular account holder; and

entering identifying information for the predicted transaction in a memory.

28. The financial transaction server of claim 27, wherein the authentication process includes a routine prompting the particular account holder to supply a combination of digits

from a personal identification code, wherein the combination does not include all of the personal identification code.

29. The financial transaction server of claim 23, wherein the authorization process includes routines:

establishing a private communication session between a party to the particular transaction and a financial transaction server;

accepting the presented transaction signature and the actual transaction amount;

determining whether the authorization time falls within an acceptable time window, and comparing the presented transaction signature and actual transaction amount with the predicted transaction amount associated with the transaction signature for the predicted transaction; and sending an authorization message to the party.

30. The financial transaction server of claim 29, wherein the authorization process includes a routine accepting identification of the party at the server.

31. The financial transaction server of claim 29, wherein the authorization process operates without identification of the particular account holder to the party.

32. The financial transaction server of claim 29, wherein the authorization process operates with identification of the particular account holder to the party.

33. The financial transaction server of claim 23, wherein the authentication process includes routines:

establishing a communication session between the particular account holder and a financial transaction server;

accepting an account number as input;

prompting the particular account holder to supply a static identification number and a dynamically identified combination of digits from a personal identification code, wherein the combination does not include all of the personal identification code;

accepting the predicted transaction amount as input;

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35. The article of claim 34, wherein the resources include a routine for storing the transaction signature and the parameters associated with the predicted transaction in a local or remote database.



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1           44. The article of claim 34, wherein the authentication process includes routines:  
2           establishing a communication session between the particular account holder and a  
3           financial transaction server;  
4           accepting an account number;  
5           prompting the particular account holder to supply a static identification number and a  
6           dynamically identified combination of digits from a personal identification code, wherein the  
7           combination does not include all of the personal identification code;  
8           accepting the predicted transaction amount;  
9           producing the transaction signature and sending the transaction signature to the particular  
10          account holder; and  
11          entering identifying information for the predicted transaction in a memory.

1           45.     A method for automated authentication, authorization and accounting for  
2     financial transactions, comprising:

3        establishing an authentication record for a predicted transaction by a particular account  
4        holder, the predicted transaction having a predicted transaction amount and a transaction time  
5        parameter, and an authenticated transaction signature for presentation upon execution of the  
6        predicted transaction;

7            establishing an authorization record for a particular transaction indicating an actual  
8            transaction amount, an actual transaction time and a presented transaction signature;

9            matching the authorization record with the authentication record to determine whether  
10        the presented transaction signature matches the authenticated transaction signature for the  
11        predicted transaction, the actual transaction amount matches the predicted transaction amount  
12        and the actual transaction time matches the transaction time parameter; and

13 reconciling the predicted transaction amount and the actual transaction amount for the  
14 particular account holder.

1 46. The method of claim 45, including:  
2 storing the authentication record in a database including a plurality of authentication  
3 records for other predicted transactions.

1 47. The method of claim 45, wherein the time parameter comprises a time value  
2 indicated when the authorization record was created.

1 48. The method of claim 45, wherein said matching includes determining whether the  
2 actual transaction time falls within a time interval indicated by the transaction time parameter.

1 49. The method of claim 45, wherein establishing an authentication record includes:  
2 establishing a communication session between the particular account holder and a  
3 financial transaction server;  
4 at the server, accepting an account number and an identification number for the particular  
5 account holder;  
6 at the server, accepting the predicted transaction amount;  
7 at the server, producing the transaction signature.

1 50. The method of claim 49, including prompting the particular account holder to  
2 supply a combination of digits from a personal identification code, wherein the combination  
3 does not include all of the personal identification code.

1 51. The method of claim 45, wherein establishing an authorization record includes:  
2 establishing a communication session between a party to the particular transaction and a  
3 financial transaction server;  
4 at the server, accepting the presented transaction signature and the actual transaction  
5 amount.

1           52.     The method of claim 51, including accepting identification of the party at the  
2 server.

1           53.     The method of claim 52, including maintaining a list of authorized parties, and  
2 wherein said matching includes determining whether the identification of the party indicates a  
3 party in the list of authorized parties.

1           54.     The method of claim 51, wherein said establishing an authorization record does  
2 not require identification of the particular account holder.

1           55.     The method of claim 45, wherein establishing an authentication record includes:  
2 establishing a communication session between the particular account holder and a  
3 financial transaction server;  
4 accepting an account number;  
5 prompting the particular account holder to supply a static identification number and a  
6 dynamically identified combination of digits from a personal identification code, wherein the  
7 combination does not include all of the personal identification code;  
8 accepting the predicted transaction amount;  
9 producing the transaction signature and sending the transaction signature to the particular  
10 account holder.